

In re Patent Application of:
CAWOOD ET AL.
Serial No. 10/781,317
Filed: **FEBRUARY 18, 2004**

In the Claims:

Claims 1-78 canceled.

79. (New) An electrical connector for at least one electrical cable end comprising a conductor and an insulating jacket thereover, the electrical connector comprising:

a conductive body having at least one conductor receiving passageway therein to receive the conductor of the at least one cable end; and

at least one insulating boot associated with said at least one conductor receiving passageway and comprising

an insulating tube having a proximal portion adjacent said conductive body and a distal portion spaced from the proximal portion,

a first penetrable seal fixed to said insulating tube at the distal portion thereof,

a second penetrable seal fixed to said insulating tube at the proximal portion thereof,

said first and second penetrable seals each being configured to accommodate different sized cable ends therethrough,

said first and second penetrable seals defining a sealant material-receiving chamber therebetween, and

a sealant material within the sealant-receiving chamber defined between said first and second penetrable seals of said insulating tube.

80. (New) An electrical connector according to Claim 79 wherein said conductive body also has at least one fastener receiving passageway intersecting the at least one conductor

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receiving passageway; and further comprising at least one fastener positioned in the at least one fastener receiving passageway for securing the conductor within the at least one conductor receiving passageway.

81. (New) An electrical connector according to Claim 79 wherein said first and second penetrable seals are each compliant to accommodate different sized cable ends and form a respective seal with adjacent portions of the cable end.

82. (New) An electrical connector according to Claim 79 wherein at least one of said first and second penetrable seals comprises a layer having a plurality of radially oriented lines of weakness therein.

83. (New) An electrical connector according to Claim 79 wherein at least one of said first and second penetrable seals comprises a layer having a plurality of successive concentric rings of weakness therein.

84. (New) An electrical connector according to Claim 79 wherein at least one of said first and second penetrable seals comprises a layer being puncturable and having a percentage elongation to yield of not less than about 300 percent.

85. (New) An electrical connector according to Claim 79 wherein at least one of said first and second penetrable seals is more compliant than said insulating tube.

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86. (New) An electrical connector according to Claim 79 wherein said at least one insulating boot comprises a thermoplastic elastomer.

87. (New) An electrical connector according to Claim 79 wherein said at least one insulating boot further comprises an elastic body contained within said insulating tube for urging at least one of said first and second penetrable seals radially inward.

88. (New) An electrical connector according to Claim 79 wherein at least one of said first and second penetrable seals is integrally molded with adjacent portions of said insulating tube.

89. (New) An electrical connector according to Claim 79 wherein said second penetrable seal comprises a tubular sidewall within said insulating tube, and a seal layer carried by said tubular sidewall.

90. (New) An electrical connector according to Claim 89 wherein said insulating tube comprises an interior ledge abutting said tubular sidewall of said second penetrable seal.

91. (New) An electrical connector according to Claim 79 wherein said insulating tube further comprises a series of gripping rings on an interior thereof.

92. (New) An electrical connector according to Claim 79 wherein at least one of said first and second penetrable

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seals has an opening therein prior penetration of the cable end therethrough.

93. (New) An electrical connector for at least one electrical cable end comprising a conductor and an insulating jacket thereover, the electrical connector comprising:

a conductive body having at least one conductor receiving passageway therein to receive the conductor of the at least one cable end; and

at least one insulating boot associated with said at least one conductor receiving passageway and comprising

an insulating tube having a proximal portion adjacent said conductive body and a distal portion spaced from the proximal portion,

a first penetrable seal fixed to said insulating tube at the distal portion thereof,

a second penetrable seal fixed to said insulating tube at the proximal portion thereof,

said second penetrable seal comprising a tubular sidewall within said insulating tube, and a seal layer carried by said tubular sidewall,

said first and second penetrable seals defining a sealant material-receiving chamber therebetween, and

a sealant material within the sealant-receiving chamber defined between said first and second penetrable seals of said insulating tube.

94. (New) An electrical connector according to Claim 93 wherein said first penetrable seal is integrally molded with adjacent portions of said insulating tube.

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95. (New) An electrical connector according to Claim 93 wherein said insulating tube comprises an interior ledge abutting said tubular sidewall of said second penetrable seal.

96. (New) An electrical connector according to Claim 93 wherein said first and second penetrable seals are each configured to accommodate different sized cable ends therethrough.

97. (New) An electrical connector according to Claim 93 wherein said conductive body also has at least one fastener receiving passageway intersecting the at least one conductor receiving passageway; and further comprising at least one fastener positioned in the at least one fastener receiving passageway for securing the conductor within the at least one conductor receiving passageway.

98. (New) An electrical connector according to Claim 93 wherein said first and second penetrable seals are each compliant to accommodate different sized cable ends and form a respective seal with adjacent portions of the cable end.

99. (New) An electrical connector according to Claim 93 wherein at least one of said first and second penetrable seals comprises a layer having a plurality of radially oriented lines of weakness therein.

100. (New) An electrical connector according to Claim 93 wherein at least one of said first and second

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penetrable seals comprises a layer being puncturable and having a percentage elongation to yield of not less than about 300 percent.

101. (New) An electrical connector according to Claim 93 wherein at least one of said first and second penetrable seals is more compliant than said insulating tube.

102. (New) An electrical connector according to Claim 93 wherein at least one of said first and second penetrable seals has an opening therein prior penetration of the cable end therethrough.

103. (New) A method of making an electrical connector for at least one electrical cable end comprising a conductor and an insulating jacket thereover, the method comprising:

providing a conductive body having at least one conductor receiving passageway therein to receive the conductor of the at least one cable end; and

associating at least one insulating boot with the at least one conductor receiving passageway and comprising

an insulating tube having a proximal portion adjacent the conductive body and a distal portion spaced from the proximal portion,

a first penetrable seal fixed to the insulating tube at the distal portion thereof,

a second penetrable seal fixed to the insulating tube at the proximal portion thereof,

the second penetrable seal comprising a tubular

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sidewall inserted within the insulating tube, and a seal layer carried by the tubular sidewall,

the first and second penetrable seals defining a sealant material-receiving chamber therebetween, and

a sealant material within the sealant-receiving chamber defined between the first and second penetrable seals of the insulating tube.

104. (New) A method according to Claim 103 wherein the first penetrable seal is integrally molded with adjacent portions of the insulating tube.

105. (New) A method according to Claim 103 wherein the insulating tube comprises an interior ledge abutting the tubular sidewall of the second penetrable seal.

106. (New) A method according to Claim 103 wherein the first and second penetrable seals are each configured to accommodate different sized cable ends therethrough.

107. (New) A method according to Claim 103 wherein the conductive body also has at least one fastener receiving passageway intersecting the at least one conductor receiving passageway; and further comprising positioning at least one fastener in the at least one fastener receiving passageway for securing the conductor within the at least one conductor receiving passageway.

108. (New) A method according to Claim 103 wherein the first and second penetrable seals are each compliant to

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accommodate different sized cable ends and form a respective seal with adjacent portions of the cable end.

109. (New) A method according to Claim 103 wherein at least one of the first and second penetrable seals comprises a layer having a plurality of radially oriented lines of weakness therein.

110. (New) A method according to Claim 103 wherein at least one of the first and second penetrable seals comprises a layer being puncturable and having a percentage elongation to yield of not less than about 300 percent.

111. (New) A method according to Claim 103 wherein at least one of the first and second penetrable seals is more compliant than the insulating tube.

112. (New) A method according to Claim 103 wherein at least one of the first and second penetrable seals has an opening therein prior penetration of the cable end therethrough.